

B

US005675734A

United States Patent [19]
Hair[11] **Patent Number:** **5,675,734**[45] **Date of Patent:** **Oct. 7, 1997**[54] **SYSTEM FOR TRANSMITTING DESIRED DIGITAL VIDEO OR AUDIO SIGNALS**[75] **Inventor:** **Arthur R. Hair**, Pittsburgh, Pa.[73] **Assignee:** **Parsec Sight/Sound, Inc.**, Upper St. Clair, Pa.

4,528,643	7/1985	Freeny, Jr.	380/4
4,538,176	8/1985	Nakajima et al.	358/86
4,567,359	1/1986	Lockwood	235/381
4,647,989	3/1987	Geddes	360/55
4,654,799	3/1987	Ogaki et al.	364/479
4,789,863	12/1988	Bush	340/825.35
5,191,573	3/1993	Hair	369/84

[21] **Appl. No.:** **607,648**[22] **Filed:** **Feb. 27, 1996****Primary Examiner**—Hoa T. Nguyen**Attorney, Agent, or Firm**—Ansel M. Schwartz

[57]

ABSTRACT

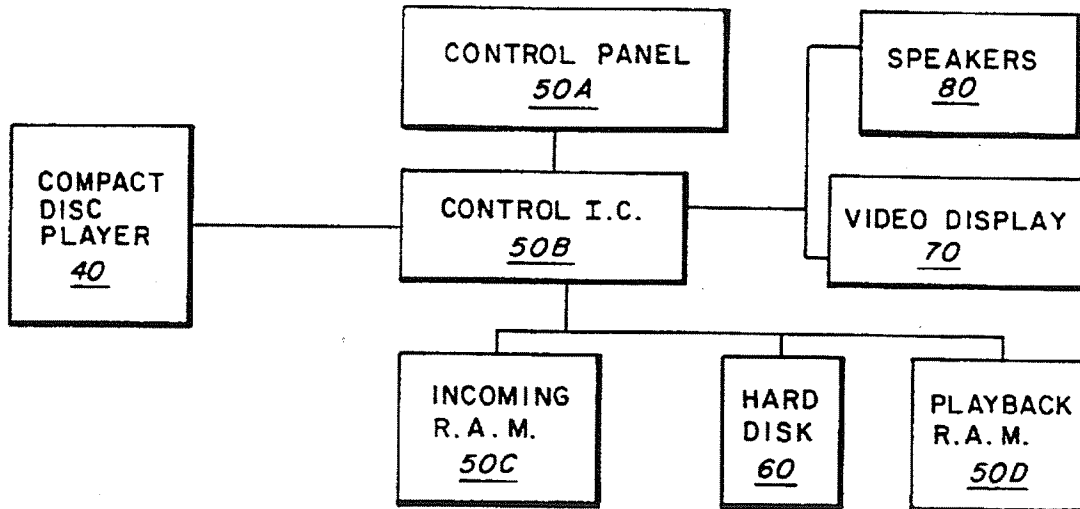
A method for transferring desired digital video or digital audio signals. The method comprises the steps of forming a connection through telecommunications lines between a first memory of a first party and a second memory of a second party. The first memory has the desired digital video or digital audio signals. Then, there is the step of selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory. Then, there is the step of transferring the desired digital video or digital audio signals from the first memory of the first party to the second memory of the second party through the telecommunications lines while the second memory is in possession and control of the second party. Additionally, there is a system for transferring digital video or digital audio signals.

Related U.S. Application Data

[63] Continuation of Ser. No. 23,398, Feb. 26, 1993, abandoned, which is a continuation of Ser. No. 586,391, Sep. 18, 1990, Pat. No. 5,191,573, which is a continuation of Ser. No. 206,497, Jun. 13, 1988, abandoned.

[51] **Int. CL**⁶ **H01J 13/00; H04L 9/00**[52] **U.S. CL** **395/200.01; 380/4; 380/43**[58] **Field of Search** **395/200.1; 235/381, 235/380, 375; 364/479.04, 410; 369/33, 34, 84, 85; 380/4, 43; 379/77; 360/55**[56] **References Cited****U.S. PATENT DOCUMENTS**

3,718,906	2/1973	Lightner	235/381
3,990,710	11/1976	Hughes	235/381
4,521,806	6/1985	Abraham	358/86

34 Claims, 2 Drawing Sheets

U.S. Patent

Oct. 7, 1997

Sheet 1 of 2

5,675,734

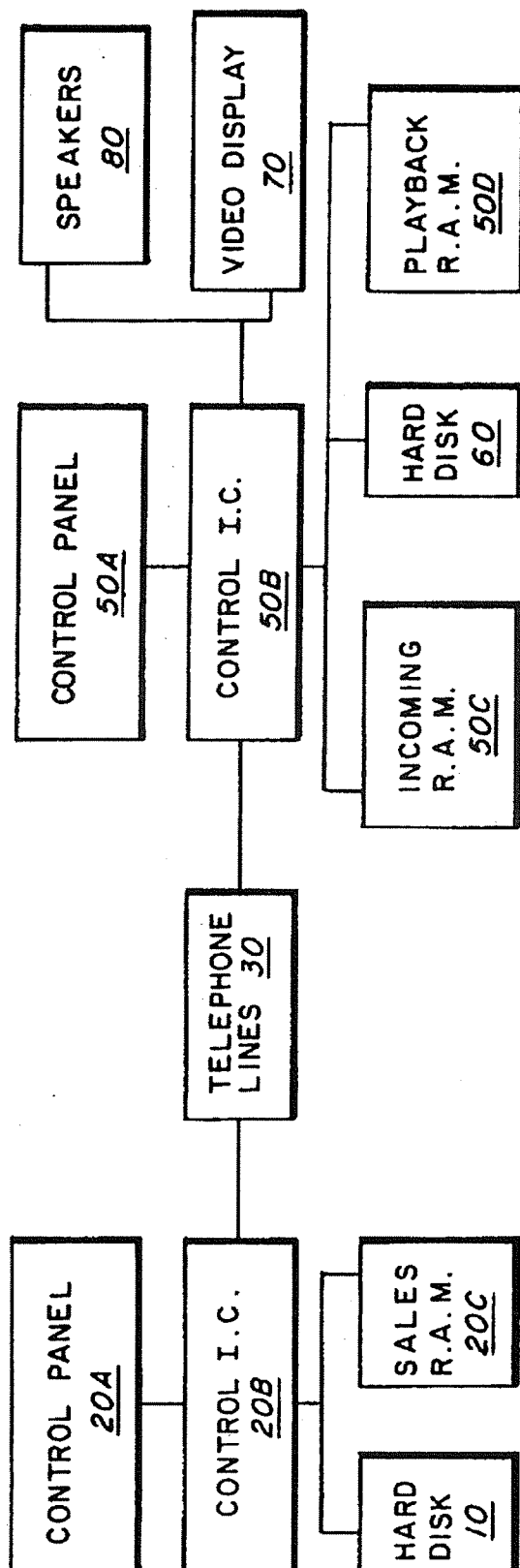


FIG. 1

U.S. Patent

Oct. 7, 1997

Sheet 2 of 2

5,675,734

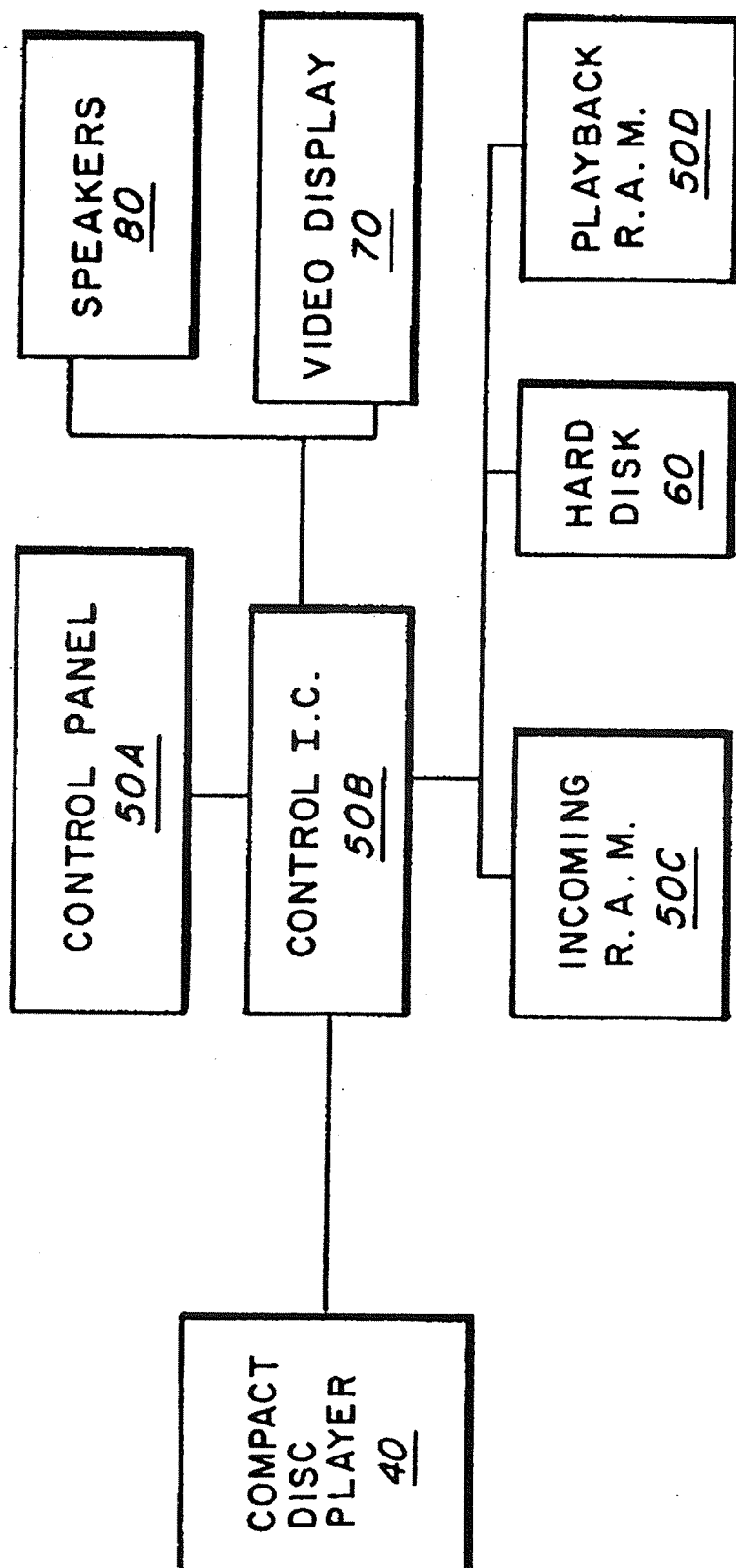


FIG. 2

5,675,734

1

SYSTEM FOR TRANSMITTING DESIRED DIGITAL VIDEO OR AUDIO SIGNALS

CROSS REFERENCE TO OTHER PATENTS

This application is a continuation of application Ser. No. 08/023,398 filed on Feb. 26, 1993, now abandoned which is a continuation application of U.S. patent application Ser. No. 07/586,391 filed Sep. 18, 1990, now U.S. Pat. No. 5,191,573, issued Mar. 2, 1993, which is a continuation application of U.S. patent application Ser. No. 07/206,497, filed Jun. 13, 1988, abandoned.

FIELD OF THE INVENTION

The present invention is related to a system and associated method for the electronic sales and distribution of digital audio or digital video signals, and more particularly, to a system and method which a user may purchase and receive digital audio or digital video signals from any location which the user has access to telecommunications lines.

BACKGROUND OF THE INVENTION

The three basic mediums (hardware units) of music: records, tapes, and compact discs, greatly restricts the transferability of music and results in a variety of inefficiencies.

CAPACITY: The individual hardware units as cited above are limited as to the amount of music that can be stored on each.

MATERIALS: The materials used to manufacture the hardware units are subject to damage and deterioration during normal operations, handling, and exposure to the elements.

SIZE: The physical size of the hardware units imposes constraints on the quantity of hardware units which can be housed for playback in confined areas such as in automobiles, boats, planes, etc.

RETRIEVAL: Hardware units limit the ability to play, in a sequence selected by the user, songs from different albums. For example, if the user wants to play one song from ten different albums, the user would spend an inordinate amount of time handling, sorting, and cueing the ten different hardware units.

SALES AND DISTRIBUTION: Prior to final purchase, hardware units need to be physically transferred from the manufacturing facility to the wholesale warehouse to the retail warehouse to the retail outlet, resulting in lengthy lag time between music creation and music marketing, as well as incurring unnecessary and inefficient transfer and handling costs. Additionally, tooling costs required for mass production of the hardware units and the material cost of the hardware units themselves, further drives up the cost of music to the end user.

QUALITY: Until the recent invention of Digital Audio Music, as used on Compact Discs, distortion free transfer from the hardware units to the stereo system was virtually impossible. Digital Audio Music is simply music converted into a very basic computer language known as binary. A series of commands known as zeros or ones encode the music for future playback. Use of laser retrieval of the binary commands results in distortion free transfer of the music from the compact disc to the stereo system. Quality Digital Audio Music is defined as the binary structure of the Digital Audio Music. Conventional analog tape recording of Digital Audio Music is not to be considered quality inasmuch as the binary structure itself is not recorded. While Digital Audio Music on compact discs is a technological

2

breakthrough in audio quality, the method by which the music is sold, distributed, stored, manipulated, retrieved, played and protected from copyright infringements remains as inefficient as with records and tapes.

COPYRIGHT PROTECTION: Since the invention of tape recording devices, strict control and enforcement of copyright laws have proved difficult and impossible with home recorders. Additionally, the recent invention of Digital Audio Tape Recorders now jeopardizes the electronic copyright protection of quality Digital Audio Music on Compact Discs or Digital Audio Tapes. If music exists on hardware units, it can be copied.

Thus, as is apparent from the above discussion, the inflexible form in which the songs are purchased by an end user, and the distribution channels of the songs, requires the end user to go to a location to purchase the songs, and not necessarily be able to purchase only the songs desired to be heard, in a sequence the end user would like to hear them. This is not limited to just songs, but also includes, for example, videos.

Accordingly, it is an objective of this invention is to provide a new and improved methodology/system to electronically sell and distribute Digital Audio Music or digital video.

A further objective of this invention to provide a new and improved methodology/system to electronically store and retrieve Digital Audio Music or digital video.

Another objective of this invention is to provide a new and improved methodology/system to electronically manipulate, i.e., sort, cue, and select, Digital Audio Music or digital video for playback.

Still another objective of this invention is to offer a new and improved methodology/system which can prevent unauthorized electronic copying of quality Digital Audio Music or digital video.

SUMMARY OF THE INVENTION

Briefly, this invention accomplishes the above cited objectives by providing a new and improved methodology/system of electronic sales, distribution, storage, manipulation, retrieval, playback, and copyright protection of Digital Audio Music. The high speed transfer of Digital Audio Music as prescribed by this invention is stored onto one piece of hardware, a hard disk, thus eliminating the need to unnecessarily handle records, tapes, or compact discs on a regular basis. This invention recalls stored music for playback as selected/programmed by the user. This invention can easily and electronically sort stored music based on many different criteria such as, but not limited to, music category, artist, album, user's favorite songs, etc. An additional feature of this invention is the random playback of songs, also based on the user's selection. For example, the user could have this invention randomly play all jazz songs stored on the user's hard disk, or randomly play all songs by a certain artist, or randomly play all of the user's favorite songs which the user previously electronically "tagged" as favorites. Further, being more specific, the user can electronically select a series of individual songs from different albums for sequential playback.

This invention can be configured to either accept direct input of Digital Audio Music from the digital output of a Compact Disc, such transfer would be performed by the private user, or this invention can be configured to accept Digital Audio Music from a source authorized by the copyright holder to sell and distribute the copyrighted materials, thus guaranteeing the protection of such copyrighted mate-

5,675,734

3

rials. Either method of electronically transferring Digital Audio Music by means of this invention is intended to comply with all copyright laws and restrictions and any such transfer is subject to the appropriate authorization by the copyright holder. Inasmuch as Digital Audio Music is software and this invention electronically transfers and stores such music, electronic sales and distribution of the music can take place via telephone lines onto a hard disk. This new methodology/system of music sales and distribution will greatly reduce the cost of goods sold and will reduce the lag time between music creation and music marketing from weeks down to hours.

The present invention is a system for transmitting desired digital video or digital audio signals stored on a first memory of a first party to preferably a second memory of a second party. The system comprises means or mechanism for electronically selling the desired digital video or digital audio signals preferably via telecommunications lines to the first party from the second party. Moreover, the system preferably comprises means or mechanism for connecting electronically via telecommunications lines the first memory preferably with the second memory such that the desired digital video or digital audio signals can pass therebetween. Additionally, the system comprises means or mechanism for transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and in possession of the first party to a receiver preferably having the second memory while the receiver is in possession and in control of the second party. The receiver is placed at a second party location determined by the second party. Preferably, there is also means or mechanism for storing the digital video or digital audio signal in the second memory.

Further objectives and advantages of this invention will become apparent as the following description proceeds and the particular features of novelty which characterize this invention will be pointed out in the claims annexed to and forming a part of this declaration.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of this invention, reference should be made to the following detailed description, taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a pictorial flow chart which may be used in carrying out the teachings of this invention for the purposes of electronic sales, distribution, storage, manipulation, retrieval, playback, and copyright protection of Digital Audio Music; and

FIG. 2 is a pictorial flow chart which may be used in carrying out the teachings of this invention for the purposes of electronic storage, manipulation, retrieval, and playback of Digital Audio Music.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings wherein like reference numerals refer to similar or identical parts throughout the several views, and more specifically to figure thereof, there is shown

Referring now to the FIG. 1, this invention preferably is comprised of the following:

- 10 Hard Disk of the copyright holder
- 20 Control Unit of the copyright holder
- 20a Control Panel
- 20b Control Integrated Circuit
- 20c Sales Random Access Memory Chip
- 30 Telephone Lines/Input Transfer

4

- 50 Control Unit of the user
- 50a Control Panel
- 50b Control Integrated Circuit
- 50c Incoming Random Access Memory Chip
- 50d Play Back Random Access Memory Chip

60 Hard Disk of the user

70 Video Display Unit

80 Stereo Speakers

The Hard Disk 10 of the first party or agent authorized to electronically sell and distribute the copyrighted Digital Audio Music is the originating source of music in the configuration as outlined in FIG. 1. The Control Unit 20 of the authorized agent is the means by which the electronic transfer of the Digital Audio Music from the agent's Hard Disk 10 via the Telephone Lines 30 to the user's or second party's Control Unit 50 is possible. The user's Control Unit is comprised of a Control Panel 50a, a Control Integrated Circuit 50b, an Incoming Random Access Memory Chip 50c, and a Play Back Random Access Memory Chip 50d. Similarly, the authorized agent's Control Unit 20 has a control panel and control integrated circuit similar to that of the user's Control Unit 50. The authorized agent's Control Unit 20, however, only requires the Sales Random Access Memory Chip 20c. The other components in FIG. 1 include a Hard Disk 60, a Video Display Unit 70, and a set of Stereo Speakers 80.

Referring now to FIG. 2, with the exception of a substitution of a Compact Disc Player 40 (as the initial source of Digital Audio Music) for the agent's Hard Disk 10, the agent's Control Unit 20, and the Telephone Lines 30 in FIG. 1, FIG. 2 is the same as FIG. 1.

In FIG. 1 and FIG. 2, the following components are already commercially available: the agent's Hard Disk 10, the Telephone Lines 30, the Compact Disc Player 40, the user's Hard Disk 60, the Video Display Unit 70, and the Stereo Speakers 80. The Control Units 20 and 50, however, would be designed specifically to meet the teachings of this invention. The design of the control units would incorporate the following functional features:

- 1) the Control Panels 20a and 50a would be designed to permit the agent and user to program the respective Control Integrated Circuits 20b and 50b,
- 2) the Control Integrated Circuits 20b and 50b would be designed to control and execute the respective commands of the agent and user and regulate the electronic transfer of Digital Audio Music throughout the system, additionally, the sales Control Integrated Circuit 20b could electronically code the Digital Audio Music in a configuration which would prevent unauthorized reproductions of the copyrighted material,
- 3) the Sales Random Access Memory Chip 20c would be designed to temporarily store user purchased Digital Audio Music for subsequent electronic transfer via telephone lines to the user's Control Unit 50,
- 4) the Incoming Random Access Memory Chip 50c would be designed to temporarily store Digital Audio Music for subsequent electronic storage to the user's Hard Disk 60,
- 5) the Play Back Random Access Memory Chip 50d would be designed to temporarily store Digital Audio Music for sequential playback.

The foregoing description of the Control Units 20 and 50 is intended as an example only and thereby is not restrictive with respect to the exact number of components and/or its actual design.

Once the Digital Audio Music has been electronically stored onto the user's Hard Disk 60, having the potential to

5,675,734

5

store literally thousands of songs, the user is free to perform the many functions of this invention. To play a stored song, the user types in the appropriate commands on the Control Panel 50a, and those commands are relayed to the Control Integrated Circuit 50b which retrieves the selected song from the Hard Disk 60. When a song is retrieved from the Hard Disk 60 only a replica of the permanently stored song is retrieved. The permanently stored song remains intact on the Hard Disk 60, thus allowing repeated playback. The Control Integrated Circuit 50b stores the replica onto the Play Back Random Access Memory Chip 50d at a high transfer rate. The Control Integrated Circuit 50b then sends the electronic output to the Stereo Speakers 80 at a controlled rate using the Play Back Random Access Memory Chip 50d as a temporary staging point for the Digital Audio Music.

Unique to this invention is that the Control Unit 50 also serves as the user's personal disk jockey. The user may request specific songs to be electronically cued for playback, or may request the Control Unit 50 to randomly select songs based on the user's criteria. All of these commands are electronically stored in random access memory enabling the control unit to remember prior commands while simultaneously performing other tasks requested by the user and, at the same time, continuing to play songs previously cued.

Offering a convenient visual display of the user's library of songs is but one more new and improved aspect of this invention. As the Control Unit 50 is executing the user's commands to electronically sort, select, randomly play, etc., the Video Display Screen 70 is continually providing feedback to the user. The Video Display Screen 70 can list/scroll all songs stored on the Hard Disk 60, list/scroll all cued songs, display the current command function selected by the user, etc. Further expanding upon the improvements this invention has to offer, the Video Display Screen 70 can display the lyrics of the song being played, as well as the name of the song, album, artist, recording company, date of recording, duration of song, etc. This is possible if the lyrics and other incidental information are electronically stored to the Hard Disk 60 with the Digital Audio Music.

The present invention is a method for transmitting desired digital video or digital audio signals stored on a first memory of a first party preferably to a second memory of a second party. The method comprises the steps of transferring money via telecommunications lines to the first party from the second party or electronically selling to the second party by the first party. Additionally, the method comprises the step of then connecting electronically via telecommunications lines the first memory preferably with the second memory such that the desired digital video or digital audio signals can pass therebetween. Next, there is the step of transmitting the desired digital video or digital audio signals from the first memory with a transmitter in control and in possession of the first party to a receiver preferably having the second memory while the receiver is in possession and in control of the second party. The receiver is placed by the second party at a second party location determined by the second party. Preferably is also the step of then storing the desired digital video or digital audio signals in the second memory.

In summary, there has been disclosed a new and improved methodology/system by which Digital Audio Music or digital video can be electronically sold, distributed, transferred, and stored. Further, there has been disclosed a new and improved methodology/system by which Digital Audio Music or digital video can be electronically manipulated, i.e., sorted, cued, and selected for playback. Further still, there has been disclosed a new and improved methodology/

6

system by which the electronic manipulation of Digital Audio Music can be visually displayed for the convenience of the user. Additionally, there has been disclosed a new and improved methodology/system by which electronic copyright protection of quality Digital Audio Music is possible through use of this invention.

Since numerous changes may be made in the above described process and apparatus and different embodiments of the invention may be made without departing from the spirit thereof, it is intended that all matter contained in the foregoing description or shown in the accompanying drawings shall be interpreted as illustrative, and not in a limiting sense. Further, it is intended that this invention is not to be limited to Digital Audio Music and can include Digital Video, Digital Commercials, and other applications of digital information.

For instance, the present invention is a system 100 for transferring digital video signals from a first party to a second party. The system 100 comprises a first party control unit 20 having a first memory having a plurality of desired individual video selections as desired digital video signals. The first party control unit 20 also has means or a mechanism for the first party to charge a fee to the second party for access to the desired digital video signals. The system 100 also comprises a second party control unit 50 having a second party control panel 50a, a receiver and a video display for playing the desired digital video or digital audio signals received by the receiver. The second party control panel 50a is connected to the video display and the receiver. The receiver and the video display is operatively controlled by the second party control panel 50a. The second party control unit 50 is remote from the first party control unit 20. The second party control unit 50 is placed by the second party at a second party location determined by the second party which is remote from the first party control unit 20. The second party chooses the desired digital video signals from the first memory with the second party control panel 50a. The system 100 is also comprised of telecommunications lines connected to the first party control unit 20 and the second party control unit 50 through which the desired digital video signals are electronically transferred from the first memory to the receiver while the second party control unit 50 is in possession and control of the second party after the desired digital video signals are sold to the second party by the first party.

Preferably, the second party control unit 50 includes a second memory which is connected to the receiver and the video display. The second memory stores the digital video signals that are received by the receiver for providing them to the video display. The second party control unit 50 preferably includes a second party hard disk 60 which stores a plurality of digital video signals, and a playback random access memory chip 50d electronically connected to the second party hard disk 60 for storing a replica of the desired digital video signals as a temporary staging area for playback. The second party control unit 50 includes a second party control integrated circuit 50b which controls and executes commands of the second party and is connected to the second party hard disk 60, the playback random access memory 50d, and the first party control integrated circuit 20b through the telecommunications lines. The second party control integrated circuit 50b preferably includes the receiver. Additionally, the second party control unit 50 includes a second party control panel 50a through which the second party control integrated circuit 20b is programmed and is sent commands and which is connected to the second party integrated circuit 50b. Preferably, the second party

5,675,734

7

control unit 50 includes an incoming random access memory chip 50c connected to the second party hard disk 60 and the second party control integrated circuit 50b, and the first party control unit 20 through the telecommunications lines for temporarily storing the desired digital video signals received from the first party's control unit 20 for subsequent storage to the second party hard disk 60. Preferably, the video display includes a video display unit connected to the playback random access memory chip 50c and to the second party integrated circuit 50b for displaying the desired digital video signals.

The first party control unit 20 preferably includes a first party hard disk 10 having a plurality of digital video signals which include the desired digital video signals, and a sales random access memory chip 20c electronically connected to the first party hard disk 10 for storing a replica of the desired digital video signals of the first party's hard disk 10. The first party control unit 20 preferably includes a first party control integrated circuit 20b which controls and executes commands of the first party and is connected to the first party hard disk 10, the first party sales random access memory 20c, and the second party control integrated circuit 20b through the telecommunications lines. The first party control integrated circuit 20b and the second party control integrated circuit 50b regulate the transfer of the desired digital video signals. The first party control unit 20 preferably also includes a first party control panel 20a through which the first party control integrated circuit 20b is programmed and is sent commands and which is connected to the first party control integrated circuit 20b.

The means or mechanism for charging a fee includes means or a mechanism for charging a fee via telecommunications lines by the first party to the second party at a location remote from the second party location. Preferably, the second party has an account and the means or mechanism for charging a fee includes means or a mechanism for charging the account of the second party. Preferably, the means or mechanism for charging the account includes means or a mechanism for charging a credit card number of the second party. Preferably, the means or mechanism for electronically selling includes means or a mechanism for electronically selling includes means or a mechanism for charging a fee via telecommunications lines by the first party to the second party at a first party location remote from the second party location. Preferably, the second party has an account and the means or mechanism for charging a fee includes means or a mechanism for charging the account of the second party. Preferably, the means or mechanism for charging the account includes means or a mechanism for receiving a credit card number of the second party. The means or mechanism for receiving a credit card number preferably is part of the control integrated circuit 20b. The telecommunications lines are preferably telephone lines 30.

The present invention also pertains to a method for transmitting desired digital video signals stored in a first memory having a plurality of individual video selections as digital video signals of a first party at a first party location to a second party at a second party location so the second party can view the desired digital video signals. The method comprises the steps of placing by the second party a receiver, and a video display connected to the receiver at the second party location determined by the second party which is remote from the first party location. Next, there is the step of charging a fee by the first party to the second party at a location remote from the second party location so the second party can obtain access to the desired digital video signals. Then, there is the step of connecting electronically via

8

telecommunications lines the first memory with a receiver of the second party while the receiver is in possession and control of the second party. Next, there is the step of choosing the desired digital video signals by the second party from the first memory of the first party so desired digital video selections are selected. Next, there is the step of transmitting the desired digital video signals from the first memory with a transmitter in control and possession of the first party to the receiver of the second party while the receiver is in possession and control of the second party at the second party location determined by the second party. Next, there is the step of displaying the desired video signals received by the receiver on a video display in possession and control of the second party. The video display is connected with the receiver.

Preferably, the step of charging a fee includes the step of charging a fee via telecommunications lines by the first party to the second party so the second party can obtain access to the desired digital video signals stored on the first memory. Preferably, the second party has an account and the step of charging a fee includes the step of charging the account of the second party. Preferably, the step of charging the account of the second party includes the steps of telephoning the first party controlling use of the first memory by the second party. Then, there is the step of providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money. Preferably, the means or mechanism for the first party to charge a fee includes means or a mechanism for transferring money electronically via telecommunications lines to the first party at a location remote from the second memory at the second party location.

Although the invention has been described in detail in the foregoing embodiments for the purpose of illustration, it is to be understood that such detail is solely for that purpose and that variations can be made therein by those skilled in the art without departing from the spirit and scope of the invention except as it may be described by the following claims.

What is claimed is:

1. A method for transferring desired digital video or digital audio signals comprising the steps of:

forming a connection through telecommunications lines between a first memory of a first party at a first party location and a second memory of a second party at a second party location remote from the first party location, said first memory having a first party hard disk having a plurality of digital video or digital audio signals including coded desired digital video or digital audio signals, and a sales random access memory chip which temporarily stores a replica of the coded desired digital video or digital audio signals purchased by the second party for subsequent transfer via telecommunications lines to the second memory of the second party; telephoning the first party controlling use of the first memory by the second party;

providing a credit card number of the second party controlling the second memory to the first party controlling the first memory so the second party is charged money;

electronically coding the desired digital video or digital audio signals to form said coded desired digital video or digital audio signals into a configuration which would prevent unauthorized reproduction of the desired digital video or digital audio signals;

storing a replica of the coded desired digital video or digital audio signals from the hard disk into the sales random access memory chip;

5,675,734

9

transferring the stored replica of the coded desired digital video or digital audio signals from the sales random access memory chip of the first party to the second memory of the second party through telecommunications lines while the second memory is in possession and control of the second party; and

storing the transferred replica of the coded desired digital video or digital audio signals in the second memory.

2. A method as described in claim 1 wherein there is a second party integrated circuit which controls and executes commands of the second party, and a second party control panel connected to the second party integrated circuit, and before the forming step, there is the step of commanding the second party integrated circuit with the second party control panel to initiate the purchase of the desired digital video or digital audio signals from the first party hard disk.

3. A method as described in claim 2 wherein the second memory includes an incoming random access memory chip which temporarily stores the coded desired digital video or digital audio signals from the sales random access memory chip, a second party hard disk for storing the coded desired digital video or audio digital signals from the incoming random access memory chip, and a playback random access memory chip for temporarily storing the coded desired digital video or digital audio signals from the first party hard disk for sequential playback; and the storing the transferred replica step includes the steps of storing the coded desired digital video or digital audio signals from the sales random access memory chip in the incoming random access memory chip, transferring the desired digital video or digital audio signals from the incoming random access memory chip to the second party hard disk, storing the desired digital video or digital audio signals in the second party hard disk, causing the second party integrated circuit with the second party control panel to play the desired digital video or digital audio signals from the second party hard disk, transferring a replica of the desired digital video or digital audio signals from the second party hard disk to the playback random access memory chip for playback and, playing the desired digital video or digital audio signals from the second party hard disk.

4. A system for transferring digital video or digital audio signals comprising:

a first party control unit having a first party hard disk having a plurality of digital video or digital audio signals which include desired digital video or digital audio signals, a sales random access memory chip electronically connected to the first party hard disk for storing a replica of the desired digital video or digital audio signals of the first party's hard disk to be transferred from the first party control unit, and means for electronically selling the desired digital video or digital audio signals;

a second party control unit having a second party control panel, a second memory connected to the second party control panel, and means for playing the desired digital video or digital audio signals connected to the second memory and the second party control panel, said means for playing operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a location determined by the second party; and

telecommunications lines connected to the first party control unit and the second party control unit through which the electronic sales of the desired digital video or digital audio signals occur and through which the

10

desired digital video or digital audio signals are electronically transferred from the sales random access memory chip to the second memory while the second memory is in possession and control of the second party and after the desired digital video or digital audio signals are sold to the second party by the first party.

5. A system as described in claim 4 wherein the second memory includes a second party hard disk which stores the desired digital video or digital audio signals transferred from the sales random access memory chip, and a playback random access memory chip electronically connected to the second party hard disk for storing a replica of the desired digital video or digital audio signals from the second party hard disk as a temporary staging area for playback.

6. A system as described in claim 5 wherein the first party control unit includes a first party control integrated circuit which controls and executes commands of the first party and is connected to the first party hard disk, the first party sales random access memory, and the second party control panel through the telecommunications lines; and a first party control panel through which the first party control integrated circuit is programmed and is sent commands and which is connected to the first party control integrated circuit.

7. A system as described in claim 6 wherein the second party control unit includes a second party control integrated circuit which controls and executes commands of the second party and is connected to the second party hard disk, the playback random access memory, and the first party control integrated circuit through the telecommunications lines, said second party control integrated circuit and said first party control integrated circuit regulate the transfer of the desired digital video or audio signals; and a second party control panel through which the second party control integrated circuit is programmed and is sent commands and which is connected to the second party integrated circuit.

8. A system as described in claim 7 wherein the second memory includes an incoming random access memory chip connected to the second party hard disk and the second party control integrated circuit, and the first party control unit through the telecommunications lines for temporarily storing the desired digital video or audio signals received from the first party's control unit for subsequent storage to the second party hard disk.

9. A system as described in claim 8 wherein the playing means includes a video display unit connected to the playback random access memory chip and to the second party integrated circuit for displaying the desired digital video or audio signals.

10. A system as described in claim 4 wherein the telecommunications lines include telephone lines.

11. A system for transmitting desired digital video or digital audio signals stored on a first memory of a first party to a second memory of a second party comprising:

a first memory in possession and control of the first party;

a second memory in possession and control of the second party, said second memory is at a location remote from said first memory;

telecommunications lines;

means or a mechanism for transferring money electronically via telecommunications lines from the second party controlling use and in possession of the second memory to the first party controlling use and in possession of the first memory;

means or a mechanism for connecting electronically via the telecommunications lines the first memory with the second memory such that the desired digital video or

5,675,734

11

digital audio signals can pass therebetween, said connecting means or mechanism in electrical communication with the transferring means or mechanism, said connecting means or mechanism comprises a first control unit in possession and control of the first party, and a second control unit in possession and control of the second party, said first control unit comprises a first control panel, first control integrated circuit and a sales random access memory, said sales random access memory and said first control panel in electrical communication with said first control integrated circuit, said second control unit comprising a second control panel, a second control integrated circuit, an incoming random access memory and a playback random access memory, said second control panel, said incoming random access memory and said playback random access memory in electrical communication with said second control integrated circuit;

means or a mechanism for transmitting the desired digital video or digital audio signals from the first memory to the second memory, said means or mechanism for transmitting comprising a transmitter connected to the first memory and the telecommunications lines and a receiver connected to the second memory, the transmitter and the telecommunications lines, said first party in control and possession of the transmitter, said second party in control and possession of the receiver, said receiver remote from said transmitter and said receiver at a location determined by the second party, said transmitting means or mechanism in electrical communication with said connecting means or mechanism; and

means or a mechanism for storing the desired digital video or digital audio signals from the first memory in the second memory, said storing means or mechanism in electrical communication with said receiver of said transmitting means or mechanism and with said second memory.

12. A system as described in claim 11 wherein the telecommunications lines include telephone lines.

13. A system as described in claim 12 wherein the first memory comprises a first hard disk and the second memory comprises a second hard disk.

14. A system as described in claim 13 including a video display and speakers in possession and control of the second party, said video display and speakers in electrical communication with said second control integrated circuit.

15. A system as described in claim 11 wherein the telecommunications lines include telephone lines.

16. A system for transmitting desired digital video or digital audio signals stored on a first memory of a first party at a first party location to a second memory of a second party at a second party location comprising:

a first memory at a first party location, said first memory in possession and control of the first party, said first memory comprising a first party hard disk in which the desired digital video or digital audio signals are stored; a second memory in possession and control of the second party, wherein said second memory is at a second party location remote from said first memory, said second memory comprising a second party hard disk in which the desired digital video or digital audio signals are stored that are received from the first memory and a playback random access memory connected to the second party hard disk;

telecommunications lines;

12

means or a mechanism for the first party to charge a fee to the second party and provide access to the desired digital video or digital audio signals at the first party location remote from the second party location, said first party controlling use of the first memory, said second party controlling use and in possession of the second memory, said means or mechanism for the first party to charge a fee includes means or a mechanism for transferring money electronically from the second party via telecommunications lines to the first party at the first party location remote from the second memory at the second party location;

means or a mechanism for connecting electronically via telecommunications lines the first memory with the second memory such that the desired digital video or digital audio signals can pass therebetween, said connecting means or mechanism in electrical communication with the transferring means or mechanism, said connecting means or mechanism comprises a first control unit disposed at the first party location and a second control unit disposed at the second party location remote from said first control unit, said first control unit comprises a first control panel, first control integrated circuit, and a sales random access memory connected to the first hard disk for temporarily storing a replica of the desired digital video or digital audio signals to be transmitted from the first control unit, said sales random access memory, said first hard disk and said first control panel in electrical communication with said first control integrated circuit, said second control unit comprising a second control panel, a second control integrated circuit, and an incoming random access memory which temporarily stores the desired digital video or digital audio signals transmitted from the sales random access memory, said playback random access memory connected to the incoming random access memory for temporarily storing a replica of the desired digital video signals or digital audio signals to be played, said incoming random access memory connected to said second party hard disk, said second control panel, said incoming random access memory, said second party hard disk and said playback random access memory in electrical communication with said second control integrated circuit;

means or a mechanism for transmitting the desired digital video or digital audio signals from the sales random access memory to the incoming random access memory, said means or mechanism for transmitting comprising a transmitter connected to the sales random access memory and the telecommunications lines and a receiver connected to the incoming random access memory, the transmitter and the telecommunications lines, said first party in control and possession of the transmitter, said second party in control and possession of the receiver, said receiver remote from said transmitter, and said receiver at the second party location determined by the second party, said transmitting means or mechanism in electrical communication with said connecting means or mechanism; and

means or a mechanism for storing the desired digital video or digital audio signals from the sales random access memory in the incoming random access memory, said storing means or mechanism in electrical communication with said receiver of said transmitting means or mechanism and with said sales random access memory.

17. A system as described in claim 16 wherein the telecommunications lines include telephone lines.

5,675,734

13

18. A system as described in claim 17 including a video display and speakers in electrical communication with said second control integrated circuit.

19. A system for transferring digital video signals comprising:

a first party control unit in possession and control of a first party;

a second party control unit in possession and control of the second party, wherein said second party control unit is at a location remote from said first party control unit;

said first party control unit having a first memory having a plurality of desired individual video selections as desired digital video signals, said first party control unit which includes a first party hard disk having the plurality of digital video signals which include desired digital video signals, and a sales random access memory chip electronically connected to the first party hard disk for storing a replica of the desired digital video signals of the first party's hard disk to be transferred from the first party control unit, and means or a mechanism for the first party to charge a fee to the second party for access to the desired digital video signals of the first party's hard disk at a location remote from the second party location;

a second party control unit having a second party control panel, a receiver and a video display for playing the desired digital video signals received by the receiver, said second party control panel connected to the video display and the receiver, said receiver and video display operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a second party location determined by the second party which is remote from said first party control unit, said second party choosing the desired digital video signals from the first party's hard disk with said second party control panel, said second party control unit includes a second memory which is connected to the receiver and the video display, said second memory storing the desired digital video signals that are received by the receiver to provide the video display with the desired digital video signals from the sales random access memory chip; and telecommunications lines connected to the first party control unit and the second party control unit through which the desired digital video signals are electronically transferred from the sales random access memory chip to the receiver while the second party control unit is in possession and control of the second party after the desired digital video signals are sold to the second party by the first party.

20. A system as described in claim 19 wherein the telecommunications lines include telephone lines.

21. A system as described in claim 20 wherein the second party control unit includes a second party hard disk which stores a plurality of digital video signals, and a playback random access memory chip electronically connected to the second party hard disk for storing a replica of the desired digital video signals as a temporary staging area for playback.

22. A system as described in claim 21 wherein the first party control unit includes a first party control integrated circuit which controls and executes commands of the first party and is connected to the first party hard disk, the first party sales random access memory, and the second party control integrated circuit through the telecommunications

14

lines, said first party control integrated circuit and said second party control integrated circuit regulate the transfer of the desired digital video signals; and a first party control panel through which the first party control integrated circuit is programmed and is sent commands and which is connected to the first party control integrated circuit.

23. A system as described in claim 22 wherein the second party control unit includes a second party control integrated circuit which controls and executes commands of the second party and is connected to the second party hard disk, the playback random access memory, and the first party control integrated circuit through the telecommunications lines, said second party control integrated circuit and said first party control integrated circuit regulate the transfer of the desired digital video signals; and a second party control panel through which the second party control integrated circuit is programmed and is sent commands and which is connected to the second party integrated circuit.

24. A system as described in claim 23 wherein the second party control unit includes an incoming random access memory chip connected to the second party hard drive and the second party control integrated circuit, and the first party control unit through the telecommunications lines for temporarily storing the desired digital video signals received from the first party's control unit for subsequent storage to the second party hard disk.

25. A system as described in claim 24 wherein the second party control unit includes a video display unit connected to the playback random access memory chip and to the second party integrated circuit for displaying the desired digital video signals.

26. A system for transferring digital audio signals comprising:

a first party control unit in possession and control of a first party, and a second party control unit in possession and control of a second party, wherein said second party control unit is at a second party location remote from the first party control unit, said first party control unit for controlling and transferring digital audio signals, said first party control unit having a first party hard disk having a plurality of digital audio signals which include a plurality of desired individual songs as desired digital audio signals, said first party control unit having a sales random access memory chip electronically connected to the first party hard disk for storing a replica of the desired digital audio signals of the first party's hard disk to be transferred from the first party control unit; means or mechanism for transmitting the desired digital audio signals from the sales random access memory chip, said means or mechanism for transferring connected to the sales random access memory chip, and said first party control unit having means or a mechanism for the first party to charge a fee to the second party to provide the second party access to the desired digital audio signals of the first party's hard disk, said means or mechanism for the first party to charge a fee to the second party remote from the second party location;

said second party control unit having a second party control panel, a second memory for storing the desired digital audio signals from the sales random access memory chip, a receiver connected to the second party control panel and speakers connected to the receiver for playing the desired digital audio signals in the second memory, said second party control panel connected to the receiver, said receiver and speakers operatively controlled by the second party control panel, said

5,675,734

15

second party control unit placed by the second party at a second party location determined by the second party which is remote from said first party control unit, said second party choosing the desired digital audio signals from the first party's hard disk with said second party control panel, said second memory connected to the receiver and the speakers, said second memory storing the desired digital audio signals that are received by the receiver; and

telecommunications lines connected to the first party control unit and the second party control unit through which the desired digital audio signals in the sales random access memory are electronically transferred by the means or mechanism for transferring to the receiver while the second party is in possession and control of the second party control unit and after the desired digital audio signals of the first party's hard disk are sold to the second party by the first party with the means or mechanism for the first party to charge a fee.

27. A system as described in claim 26 wherein the telecommunications lines include telephone lines.

28. A system for transferring digital video or digital audio signals comprising:

a first party control unit having a first party hard disk having a plurality of digital video or digital audio signals which include desired digital video or digital audio signals, a sales random access memory chip electronically connected to the first party hard disk for storing a replica of the desired digital video or digital audio signals of the first party's hard disk to be transferred from the first party control unit, and a mechanism for electronically selling the desired digital video or digital audio signals of the first party's hard disk;

a second party control unit having a second party control panel, a second memory connected to the second party control panel, and a mechanism for playing the desired digital video or digital audio signals connected to the second memory and the second party control panel, said playing mechanism operatively controlled by the second party control panel, said second party control unit remote from the first party control unit, said second party control unit placed by the second party at a location determined by the second party; and

telecommunications lines connected to the first party control unit and the second party control unit through which the electronic sales of the desired digital video or digital audio signals occur of the first party's hard disk, and over which the desired digital video or digital audio signals of the first party's hard disk are electronically transferred from the sales random access memory chip

16

to the second memory while the second party is in possession and control of the second memory and after the desired digital video or digital audio signals are sold to the second party by the first party.

29. A system as described in claim 28 wherein the telecommunications lines include telephone lines.

30. A system as described in claim 29 wherein the second party control unit includes a second party hard disk which stores a plurality of digital video or audio signals, and a playback random access memory chip electronically connected to the second party hard disk for storing a replica of the desired digital video or audio signals as a temporary staging area for playback.

31. A system as described in claim 30 wherein the first party control unit includes a first party control integrated circuit which controls and executes commands of the first party and is connected to the first party hard disk, the first party sales random access memory, and the second party control integrated circuit through the telecommunications lines, said first party control integrated circuit and said second party control integrated circuit regulate the transfer of the desired digital video or audio signals; and a first party control panel through which the first party control integrated circuit is programmed and is sent commands and which is connected to the first party control integrated circuit.

32. A system as described in claim 31 wherein the second party control unit includes a second party control integrated circuit which controls and executes commands of the second party and is connected to the second party hard disk, the playback random access memory, and the first party control integrated circuit through the telecommunications lines, said second party control integrated circuit and said first party control integrated circuit regulate the transfer of the desired digital video or audio signals; and a second party control panel through which the second party control integrated circuit is programmed and is sent commands and which is connected to the second party integrated circuit.

33. A system as described in claim 32 wherein the second party control unit includes an incoming random access memory chip connected to the second party hard drive and the second party control integrated circuit, and the first party control unit through the telecommunications lines for temporarily storing the desired digital video or audio signals received from the first party's control unit for subsequent storage to the second party hard disk.

34. A system as described in claim 33 wherein the second party control unit includes a video display unit connected to the playback random access memory chip and to the second party integrated circuit for displaying the desired digital video or audio signals.

* * * * *



US005675734C1

(12) **EX PARTE REEXAMINATION CERTIFICATE** (7924th)
United States Patent
Hair

(10) Number: **US 5,675,734 C1**
 (45) Certificate Issued: **Dec. 14, 2010**

(54) **SYSTEM FOR TRANSMITTING DESIRED DIGITAL VIDEO OR AUDIO SIGNALS**

(75) Inventor: **Arthur R. Hair**, Pittsburgh, PA (US)

(73) Assignee: **DMT Licensing, LLC**, Princeton, NJ (US)

Reexamination Request:
 No. 90/007,403, Jan. 31, 2005

Reexamination Certificate for:
 Patent No.: **5,675,734**
 Issued: **Oct. 7, 1997**
 Appl. No.: **08/607,648**
 Filed: **Feb. 27, 1996**

3,718,906 A	2/1973	Lightner
3,824,597 A	7/1974	Berg
3,947,882 A	3/1976	Lightner
3,990,710 A	11/1976	Hughes
4,028,733 A	6/1977	Ulicki
4,045,776 A	8/1977	Wheelwright et al.
4,108,365 A	8/1978	Hughes
4,124,773 A	11/1978	Elkins
4,300,040 A	11/1981	Gould et al.
4,335,809 A	6/1982	Wain
4,359,223 A	11/1982	Baer et al.
4,370,649 A	1/1983	Fuerle
4,422,093 A	12/1983	Pargue, Jr.
4,472,747 A	9/1984	Schwartz
4,499,568 A	2/1985	Gremillet

(Continued)

Related U.S. Application Data

(63) Continuation of application No. 08/023,398, filed on Feb. 26, 1993, now abandoned, which is a continuation of application No. 07/586,391, filed on Sep. 18, 1990, now Pat. No. 5,191,573, which is a continuation of application No. 07/206,497, filed on Jun. 13, 1988, now abandoned.

(51) **Int. Cl.**

G11B 20/00	(2006.01)
G11B 27/34	(2006.01)
G11B 27/00	(2006.01)
G11B 27/031	(2006.01)
G11B 27/034	(2006.01)
G11B 27/10	(2006.01)
G07F 17/00	(2006.01)
G07F 17/16	(2006.01)

(52) **U.S. Cl.** 705/26; 379/93.12; 380/43; 705/52; 709/219

(58) **Field of Classification Search** None
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,244,809 A	4/1966	Fuller
3,602,891 A	8/1971	Clark et al.
3,696,297 A	10/1972	Otero

FOREIGN PATENT DOCUMENTS

GB	2 178 275 A	2/1987
JP	62-284496	12/1987

OTHER PUBLICATIONS

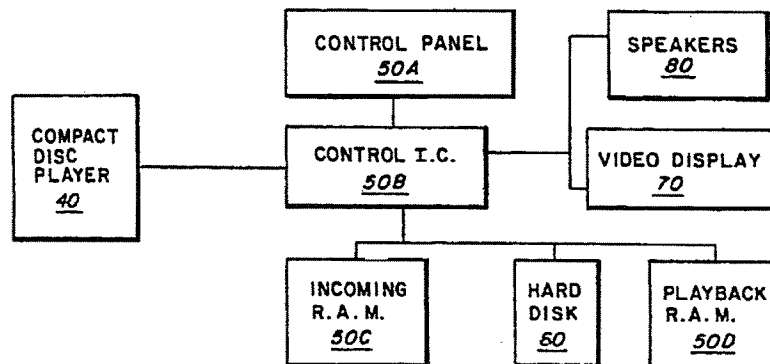
"The History of Recordings", Recording Industry of Association, retrieved from <http://www.riaa.com/issues/audio/history.asp> on Sep. 19, 2006.*

(Continued)

Primary Examiner—Roland G Foster

(57) **ABSTRACT**

A method for transferring desired digital video or digital audio signals. The method comprises the steps of forming a connection through telecommunications lines between a first memory of a first party and a second memory of a second party. The first memory has the desired digital video or digital audio signals. Then, there is the step of selling electronically by the first party to the second party through telecommunications lines, the desired digital video or digital audio signals in the first memory. Then, there is the step of transferring the desired digital video or digital audio signals from the first memory of the first party to the second memory of the second party through the telecommunications lines while the second memory is in possession and control of the second party. Additionally, there is a system for transferring digital video or digital audio signals.



US 5,675,734 C1

Page 2

U.S. PATENT DOCUMENTS

4,506,387 A 3/1985 Walter
 4,520,404 A 5/1985 Von Kohorn
 4,521,806 A 6/1985 Abraham
 4,521,857 A 6/1985 Reynolds, III
 4,528,643 A 7/1985 Freeny, Jr.
 4,533,948 A 8/1985 McNamara et al.
 4,536,856 A 8/1985 Hiroishi
 4,538,176 A 8/1985 Nakajima et al.
 4,559,570 A 12/1985 Schwartz
 4,567,359 A 1/1986 Lockwood
 4,567,512 A 1/1986 Abraham
 4,586,430 A 5/1986 Tichy et al.
 4,605,973 A 8/1986 Von Kohorn
 4,636,876 A 1/1987 Schwartz
 4,647,989 A 3/1987 Geddes
 4,648,037 A 3/1987 Valentino
 4,654,799 A 3/1987 Ogaki et al.
 4,658,093 A 4/1987 Hellman
 4,667,802 A 5/1987 Verduin et al.
 4,672,613 A 6/1987 Foxworthy et al.
 4,674,055 A 6/1987 Ogaki et al.
 4,675,904 A 6/1987 Silverman
 4,682,248 A 7/1987 Schwartz
 4,688,105 A 8/1987 Bloch et al.
 4,703,465 A 10/1987 Parker
 4,725,977 A 2/1988 Izumi et al.
 4,739,510 A 4/1988 Jeffers et al.
 4,754,483 A 6/1988 Weaver
 4,755,872 A 7/1988 Bestler et al.
 4,755,889 A 7/1988 Schwartz
 4,758,908 A 7/1988 James
 4,759,060 A 7/1988 Hayashi et al.
 4,761,684 A 8/1988 Clark et al.
 4,763,317 A 8/1988 Lehman et al.
 4,766,581 A 8/1988 Korn et al.
 4,787,050 A 11/1988 Suzuki
 4,787,073 A * 11/1988 Masaki 369/178.01
 4,789,863 A 12/1988 Bush
 4,792,849 A 12/1988 McCalley et al.
 4,797,918 A 1/1989 Lee et al.
 4,825,357 A * 4/1989 Ovies et al. 710/29
 4,829,372 A 5/1989 McCalley et al.
 4,894,789 A 1/1990 Yee
 4,918,588 A 4/1990 Barrett et al.
 4,949,187 A 8/1990 Cohen
 4,999,806 A 3/1991 Chernow et al.
 5,003,384 A 3/1991 Durden et al.
 5,019,900 A 5/1991 Clark et al.
 5,041,921 A 8/1991 Scheffler
 5,086,434 A * 2/1992 Abe et al. 375/219
 5,089,885 A 2/1992 Clark
 5,099,422 A 3/1992 Foresman et al.
 5,130,792 A 7/1992 Tindell et al.
 5,132,992 A 7/1992 Yurt et al.
 5,191,193 A 3/1993 Le Roux
 5,191,410 A 3/1993 McCalley et al.
 5,191,573 A 3/1993 Hair
 5,241,428 A * 8/1993 Goldwasser et al. 386/109
 5,307,456 A 4/1994 MacKay
 5,428,606 A 6/1995 Moskowitz
 RE35,184 E 3/1996 Walker
 5,535,137 A * 7/1996 Rossmere et al. 358/537
 5,675,734 A 10/1997 Hair
 5,966,440 A 10/1999 Hair

OTHER PUBLICATIONS

"History of CD Technology", citing as a source "The compact Disc Handbook, 2nd Edition," by Ken C. Pohlmann, retrieved from <http://www.oneoffcd.com/info/historycd.cfm> on Sep. 19, 2006.*
 "History of MPEG", University of California, Berkeley, School of Information Management and Systems, retrieved from <http://www2.sims.berkeley.edu/courses/is224/s99/GroupG/report1.html> on Sep. 19, 2006.*
 "IBM HDD Evolution" chart, by Ed Grochowski at Almaden, retrieved from http://www.soragereview.com/guidelimages/z_ibm_sorageevolution.gif on Sep. 19, 2006.*
 Apple Inc., Form 10-Q, Apr. 21, 2010.
 Blockbuster Changes Course of In-store Duplication Plans, Multimedia & Videodisc Monitor, vol. 12, No. 6, Jun. 1, 1994 (1 page).
 Blockbuster Reaffirms Video Retailing Roots, Video Week, vol. 14, No. 19, May 17, 1993 (2 pages).
 Blockbuster To Test Videogame Downloads In Summer, Audio Week, vol. 6, No. 12, Mar. 28, 1994 (2 pages).
 IBM, Blockbuster join forces on CD venture; Associated Press, May 12, 1993 (2 pages).
 Magistrate's Report and Recommendation (Amending Claim Construction), *Sightsound.com v. NSK et al.*, Civil Action No. 98-118, Apr. 2, 2002.
 Magistrate's Report and Recommendation (on Claim Construction), *Sightsound.com v. NSK et al.*, Civil Action No. 98-118, Feb. 8, 2002.
 Memorandum Order of Court (adopting amended claim construction recommendation), *Sightsound.com v. NSK et al.*, Civil Action No. 98-118, Nov. 27, 2002.
 Music burning kiosks: On the right track; Self Service and Kiosk Association, Apr. 9, 2007 (4 pages).
 Sony Music Plans to Test Use of In-Store Digital Kiosks, New York Times, Jun. 10, 1999.
 Starbucks shuts down its Hear Music kiosks, May 2006 (http://brandautopsy.typepad.com/brandautopsy/2006/05/starbucks_shuts.html).
 Turning Over New Leaf, Consumer Electronics, Feb. 13, 1995 (1 page).
 Jordan, Larry E. and Churchill, Bruce, *Communications and Networking for the IBM PC*, Robert J. Brady Co., Bowie, MD (1983).
 W. Rosch, "ComNet for the PC," *PC Magazine*, Aug. 1983, pp. 225-228.
 E. Ferrarini, "Direct Connections for Software Selections," *Business Computer Systems*, Feb. 1984, pp. 35+ (4 pages total).
 D. Waters, "Prospects for Standardization in Cable Audio," *Technical Papers—NCTA Annual Convention*, 1984, pp. 82-84.
 J. Taylor, "The Copy-Protection Wars," *PC Magazine*, vol. 5, No. 1, Jan. 14, 1986, pp. 165-167 (electronic version of original consisting of 14 pages being submitted).
 P. Elmer-DeWitt, "Calling up an on-line comucopia; computer networks are supermarkets of services and information," *Time*, Apr. 7, 1986 (two-page electronic version obtained at <http://www.highbeam.com>).
 M. Kramer, "Network applications are adding encryption," *PC Week*, vol. 4, Mar. 3, 1987, p. C7(1) (electronic version of original consisting of 6 pages being submitted).
 From the newS desk, D. Needle, Info World, May 11, 1984.
 Computer system organization: Problems of the 1980's, H. Apfelbaum, et al., Computer Sep. 1978, vol. II, No. 9.

US 5,675,734 C1

Page 3

- System for capturing, storing and playing back large data bases at home, D.C. Gazis, S.S. Soo, IBM Technical Disclosure Bulletin, vol. 23, No. 2, p. 856, Jul. 1980.
- Jimmy Bowen: Music Row's Prophet of change, L. Chappell, Advantage, vol. 9, No. 10, p. 38, Oct. 1986.
- Rock Around the Database, L. Dotto, Information Technol., vol. 57, No. 9, pp. 128-135, Sep. 1984.
- Home (computer) terminal musical program selection, P.L. Rosenfeld, IBM Technical Disclosure Bulletin, vol. 23, No. 78, p. 3440.
- A Harmonious Musical Interface, S. Cunningham, Network World, Inc., Sep. 8, 1986.
- Electronic Orchestra in your livingroom, S. Mace, Info-World, Mar. 25, 1985, p. 29.
- Cable Scan, No Author, Oct. 1983.
- A review of digital audio techniques, M. Willcocks, Journal of the Audio Engineering Society, vol. 26, No. 12, pp. 56, 58, 60, 62, 64, Jan.-Feb. 1978.
- Digital Music Will Launch the Home Music Store, G. Gulick, Satellite News, 81-11-09, pp. 7.
- Telecommunications in the coming decades, S.B. Weinstein, IEE Spectrum, Nov. 1977, p. 62.
- Electronic Banking Goes to Market, T.S. Perry, IEE Spectrum, Feb. 1977, p. 46.
- Gordon Bell calls for a U.S. Research Network, G. Gordon Bell, IEEE Spectrum p. 54.
- As Patents Multiply, Web Sites Find Lawsuits Are a Click Away, S. Hansell, New York Times, Dec. 11, 1999, A1.
- The Tony Basile Home Page, The Pan Network, The Pan Network, Dec. 12, 1999.
- Tele computing—Direct Connections for Software Selections, E. Ferrarini, Business computer systems, Feb. 1984.
- Young Arcadians Come Home, D.N., Info. World, vol. 5, No. 27.
- Two way Cable System Using Residential CATV Facilities, Semir Sirazi, et al, ICCE 84, Jun. 7, 1984, LaSalle III—Digest of Technical Papers.
- News, D. Caruso, InfoWorld, Apr. 16, 1984.
- Pay Per View Entertainment System, PTO, US Patent and Trademark Office, Patent Bibliographic Database, Jan. 26, 2000.
- Software Distribution System, PTO, US Patent and Trademark Office, patent Bibliographic Database, Jan. 26, 2000.
- Dig-Music: An On Demand Digital Music Selection System utilizing CATV Facilities, Y. Want, G.M. Campbell, IEEE Transactions on Consumer Electronics, vol. CE 28, No. 3, Aug. 1982, p. xvii.
- Transmission of Musical Info. in a teletext multiplexed broadcasting system, Y. Sugimori, et al., IEEE International Conference on Consumer Electronics, 1985—Digest of Technical Papers.
- An Encrypted Digital Audio System for Conventional Cable System, K. Kitagawa, et al., IEEE International Conference on Consumer Electronics, 1985—Digest of Technical Papers.
- Telephone computers—a look at the one per Desk Telecomputer, D. Pountain, Byte U.K., Jun. 1985.
- Music Software for the Apple Macintosh, C. Yavelow, Computer Music Journal, vol. 9, No. 3, Fall 1985.
- NAPLPS Videotex Frame Creation System with Automatic Encoding of Input Images, T. Fujimori, IEEE Transactions on Consumer Electronics, vol. CE-31, No. 3, Aug. 1985.
- Picture Transmission for Videotex, K. Ngan, et al., IEEE Transactions on Consumer Electronics, vol. CE-31, No. 3, Aug. 1985.
- A System for Transmitting Electronic Photographs, N. Kihara, et al., IEEE Transactions on Consumer electronics, vol. CE-28, No. 3, Aug. 1982.
- A Low cost High Performance Picture Display for Photovideotex, G.P. Hudson, C.P. Arbuthnot, IEEE Transactions on Consumer Electronics, vol. CE-32, Aug. 1986.
- The Coding of Graphics Animation in a Videotext Terminal, C. Paboucsidis, 1986 IEEE International Conference on Consumer Electronics, Digest of technical Papers, Jun. 1986.
- Videotext Programs Videorecorder (VPV), U. Bensch, 1984 IEEE International Conference on Consumer Electronics, Digest of technical Papers Jun. 1984.
- Picture Transmission for Videotex, H. Weng Cheong, N. King Ngi, 1988 IEEE International Conference on Consumer Electronics, Digest of technical Papers, Jun. 1988.
- Digital Still Picture Recorder Utilizing an Ordinary Audio Cassette Deck, S. Kageyama, et al. 1985 IEEE International Conference on Consumer Electronics, Digest of technical Papers, Jun. 1985.
- Digital Still Picture Recorder Utilizing an Ordinary Audio Cassette Deck, S. Kageyama, et al. 1985 IEEE International Conference on Consumer Electronics, Digest of Technical Papers, Jun. 1985.
- A New digital Audio and Data Transmission System Using the CATV Network, Y. Kojima, et al., IEEE Transactions on Consumer Electronics, vol. CE-30, No. 3, Aug. 1984.
- A Simple Technique for Video Image Transmission, N.D. Jotwani, K.L. Mong, IEEE Transactions on Consumer Electronics, vol. CE-33, No. 1, Feb. 1987.
- Third Party Profile: Control Video Corporation, no author, Control Video Corp. Web Site.
- Dial-A-Game-GameLine module links WCS With Game Bank, D. Burns, Digital Antic, vol. 2, No. 4, Jul. 1983, p. 82.
- Remembering the Gameline, D. Skeleton, <http://ccwf.ccutexas.edu>.
- Digitalized Voice Comes of Age Part 1—Trade Offs, B. Occhiogrosso, Data Communications, Mar. 1978.
- A New Digital Audio and Data Transmission System Using the CATV Network, Y. Kojima, et al., IEEE Transactions on Consumer Electronics, vol. CE-30, No. 3, Aug. 1984.
- A Packet Video/Audio System Using the Asynchronous Transfer Mode Technique, H.J. Chao, et al, IEEE Transactions on Consumer Electronics, vol. 35, No. 2, May 1989.
- Digital Audio Data Transmission in a Coaxial Cable Environment, R. Scheuerer, et al, IEEE Transactions on Consumer Electronics, vol. 35, No. 2, May 1989? (Illegible).
- Transmission of Musical info. in a Teletext Multiplexed Broadcasting system, Y. Sugimori, et al, IEEE Transactions on Consumer Electronics, vol. CE-29, No. 3, Aug. 1983.
- 4004 Futures for Teletext and Videotex in the US, R.P. Plummer, et al, IEEE Transactions on Consumer Electronics, vol. CE-25, No. 3, Jul. 1979.
- Teletext/Viewdata LSI, B. Harden, et al., IEEE Transactions on Consumer Electronics, vol. CE-25, No. 3, Jul. 1979.
- Prestel—the World's First Public View data Service, R.D. Bright, et al., IEEE Transactions on Consumer Electronics, vol. CE-25, No. 3, Jul.
- Teletext and Viewdata (costs as Applied to the US Market, G.O. Crowther, IEEE Transactions on Consumer Electronics, vol. CE-25, No. 3, Jul. 1979.

US 5,675,734 C1

Page 4

- Telidon—A Review, H. Brown, W. Sawchuk, IEEE Communications Magazine, Jan. 1981.
- Videotex Services: Network and Terminal Alternatives, J.M. Costa, A.M. Chitnis, IEEE Transactions on Consumer Electronics, vol. CE-25, No. 3, Jul. 1979.
- System and Hardware Considerations of Home Terminals With Telephone Computer Access, J. Blank, IEEE Transactions on Consumer Electronics, vol. CE-25, No. 3, Jul. 1979.
- Profile—Career Update, Key board News, Apr. 1985.
- Telecommunications—Let Your Telephone Do the Sampling, B. Tolinski, KSC, Apr. 1986.
- Pan: Meeting Place for the Industry, P. Leopold, Electronic Musician, Sep. 1986.
- A Harmonious Musical Interface—Instrument Connectivity is Music to Composer's ears., S. Cunningham, Network World, Sep. 8, 1986 (vol. 3, No. 27).
- Teaching Computers to Emulate Bach, J.S. Newton, The New York Times, Sunday, Mar. 1, 1987.
- Getting Into Pan, S. Lloyd, Sonics (nothing else appears).
- MIDI By Modem: The Future in Now, P. Leopold, Conference Paper—Music and Digital Technology.
- The Information Source of the Future is Online now: Electronic Bulletin Boards, G. Armbruster, Keyboard Magazine, Dec. 1985.
- MIDI—Musical Instrument Digital Interface, J. Aikin, Keyboard Magazine, Jan. 1986.
- MIND Over MIDI—Diary of a Mad MIDI Specialist, J. Cooper, Keyboard Magazine, Jun. 1986.
- Cover of the Keyboard Magazine and Advertisement from Hybrid Acts, Inc., Keyboard Magazine, Jul. 1986.
- What is Musical Property?—The Ethics of Sampling, S. Alvaro, Keyboard Magazine, Oct. 1986.
- Collection of MIDI Stereo Advertisements, Electronic Musician, vol. 5, No. 2, Feb. 1989.
- In the Public Eye: Free Atari Software, J. Johnson, Electronic Musician, vol. 5, No. 10, Oct. 1989.
- Going Online—A Guide to elec. Bulletin board System, M. Rivers, Electronic Musician, vol. 6, No. 11, Nov. 1990.
- Page of EM Classifieds, Electronic Musician, Nov. 1989.
- Advertisements, Electronic Musician, Aug. 1989.
- EM Classifieds, Electronic Musician, Jul. 1989.
- Advertisements, Electronic Musician, Jul. 1989.
- Start Me. Up?—the Music Biz Meets the personal computer, B. Krepack, R. Firestone, Published by Medioc Press, Copyright 1986.
- A Harmonious Musical Interface, S. Cunningham, 1986 Network world, Sep. 8, 1986.
- Synth—Bank, USPTO, USPTO—Trademark Text and Database.
- Managing the Intellectual Property Lifecycle, B. Bell, A. Brown, Jr., A excerpt from an article available at Synthbank.com 1998, Synthbank, Inc.
- List of E-Bulletin Boards with an attached EM page of ads, On-line Resources/Electronic Bulletin Boards.
- An Upbeat Way to Order; worth watching, G. Charlish, 1988 The Financial Times (Lexis-Nexis).
- Musicnet, USPTO, USPTO—Trademark.
- PC Forum Attendees Call for Cooperation with Government, S. Higgins, Westlaw, Monday, Mar. 1, 1993.
- Data Highways . . . Can we get there from here?, J. Burgess, The Washington Post, May 2, 1993 (Lexis-Nexis).
- MNI Interactive to Revolutionize the Way Consumers Select and Purchase Entertainment Products, PR Newswire Association, Jan. 17, 1994.
- The Interactive Age—Can The Exalted Vision Become a Reality?, M. W. Miller, The Wall Street Journal, Thursday, Oct. 14, 1993.
- Music Net Let's Consumer's Fingers do the Walking, J. McCullaugh, Billboard, Saturday, Oct. 16, 1993 (Westlaw).
- "Rolling Stone" Takes Music to The Phone, S. Donaton, A. Z. Cuneo, Advertising Age, Jul. 11, 1994, (Lexis-Nexis).
- Most Silicon Valley Ventures Beat the Odds, S. Herhold, Knight—Ridder Tribune Business News, Feb. 14, 1999.
- Entire September Issue, Electronic Musician, Sep. 1986.
- Digit Download—Guidelines for the Architecture of Audio Technical Facilities at an Online Music Retail Site, Preliminary White Paper Version 1.0 Mar. 2, 1999 (CDN 03994-004038).
- The Telharmonium: An Early Breakthrough in Electronic Music, T. Holmes, Gyrofrog Communications Electronic and Experimental Music 1996.
- Free Music Downloads, CDNow, CDNow Web Site (CDN 000078-85).
- Gameline—the Incredible New Way to Play Video Games, Gameline brochure.
- Downloading and Teledelivery of Computer Software, Music and Video, International Resource Development, Inc (DN 021217-021432).
- Downloading and Tele-delivery of Computer Software, Music and Video, International Resource Development, Inc. Jul. 1983 (CDN 021433-021664).
- The Development of a Commercial Tele software Service, A. Sweet, Tele Software Cavendish Conference Center Sep. 27-28, 1984. Publication No. 60 [61] Institution of Electronic and Radio Engineers.
- Tele software—The Computer in Your TV set, J. Hedger, New Electronics, vol. 13, No. 245, Dec. 9, 1980.
- Tele Software: Adding Intelligence to Teletext, R. Eason, J. Hedger, Proceedings IEEE, vol. 126, No. 12, Dec. 1979.
- Receiving Tele Software With CCT, J.R. Kinghorn, Tele software Cavendish Conference Center Sep. 27-28, 1984. Publication No. 60 [61] Institution of Electronic and Radio Engineers.
- Games Tele Software on Cable, T.J Havelock, Tele software Cavendish Conference Center Sep. 27-28, 1984. Publication No. 60 [61] Institution of Electronic and Radio Engineers.
- The UK Teletext Standard for Tele Software Transmissions D.J. Rayer View data and Videotext, 1980-1981: A Worldwide Report.
- Broadcast Tele Software Experience With Oracle, J. Hedges, View data and Videotext, 1980-1981: A Worldwide Report.
- Music from the skies promised by firm serving cable users, S. Chase, The Washington Post, Oct. 19, 1981.
- Abstract, L. Landro, The Wall Street Journal, Oct. 14, 1981.
- Abstract, No author listed, UPI—Oct. 13, 1981.
- Hi-Tech *do-Dads* for the man of the house, No author listed, Trends.
- New Products Programmed for Consumers, No author listed, Computer Report.
- Electronics show had variety of new home equipment, No author listed, Hi-Fi News and Record Reviews, 1985.
- New Telerecording Method for Audio, No author listed, BM/E, Oct. 1985.
- Cable TV Moves To The Music, A.L. Yarrow, NY Times, Jul. 4, 1982.